UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

THE JOHNS HOPKINS UNIVERSITY, a Maryland corporation, BAXTER HEALTHCARE CORPORATION, a Delaware corporation, and BECTON DICKINSON AND COMPANY, a New Jersey corporation,	Case No. 94-105 RRM
Plaintiffs,	
v.	
CELLPRO, INC., a Delaware corporation,	
Defendant.	

DECLARATION OF DR. JOHN A. ZAIA

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I, John A. Zaia, M.D., do hereby declare:

1. I am the Director of Virology and Infectious Diseases in the Division of Pediatrics, and am Chairman of the Advisory Committee for Gene Therapy, at City of Hope National Medical Center, 1500 East Duarte Road, Duarte, California 91010-3000.

2. I have used CellPro's CEPRATE® SC stem cell concentrator in conjunction with my research and clinical activities since 1995.

3. I am currently involved in an ongoing series of studies having as their ultimate aim the development of a gene-therapy approach, using the CEPRATE® SC stem cell concentrator, for treating Acquired Immune Deficiency Syndrome ("AIDS"). In broad concept, these studies involve isolating stem cells from patients who are infected with the Human Immunodeficiency Virus ("HIV"), genetically transfecting those cells with a vector that carries a gene that renders them resistant to invasion by HIV, re-infusing the transfected stem cells into the patients from whom they came, and following those patients to track the results of such gene therapy upon the patients' HIV virus status and upon the progression of AIDS in those patients. Although it is far too early to evaluate the efficacy of such treatment, the hope is that it will prove effective to slow or arrest the disease process, and that it might

actually be curative of AIDS, at least if accompanied by myeloablation. Our aim, in other words, is to develop a gene-therapy treatment, and possibly a gene-therapy cure, for AIDS.

4. All of the studies hereinafter described have been, are being or are intended to be supported by funding through the Strategic Program for Innovative Research for AIDS Treatment ("SPIRAT"), a program of the National Institutes of Health ("NIH").

5. The first step (now completed) in this series of studies was a preclinical trial to test the safety and efficacy of GCSF mobilization of stem cells in HIV-infected subjects. We treated the subjects with GCSF to mobilize their stem cells (i.e., to cause stem cells to migrate from the marrow into the peripheral blood) and then, by apheresis and immunoselection using the CEPRATE® SC stem cell concentrator, we prepared enriched suspensions of stem cells to be genetically transfected using the HIV-resistance vector. We have received preclinical approval from the FDA, indicating that GCSF mobilization of stem cells in such patients is sufficiently safe that further studies may proceed. Moreover, some cells derived from this procedure and then genetically modified have been shown in vitro to resist HIV.

6. We presently have in place an IND (Investigational New Device) approval pursuant to which we are conducting a further trial under an authorization which (as presently constituted) authorizes us to treat five HIV-positive patients with the GCSF

mobilization, apheresis, immunoselection and genetic transduction therapy described above. The goal of this study is to determine whether this treatment is efficacious in reducing, or retarding the increase of, the patient's HIV virus count (i.e., whether the transfected cells engraft and whether the daughter cells are resistant to HIV).

7. We plan to seek amendment of the authorization to permit us to conduct a related study (with continued funding from the NIH) in which we would treat an additional five patients who are not only HIV-positive but who also have lymphoma. The treatment plan for these patients would include essentially the following steps: (a) GCSF mobilization of stem cells into the peripheral blood; (b) apheresis of the peripheral blood; (c) immunoselection using CellPro's CEPRATE® SC stem cell concentrator to achieve a suspension that is enriched for stem and progenitor cells but depleted of tumor (lymphoma) cells; (d) genetic transduction of the stem cells with the HIV-resistance vector; (e) myeloablation of the patient; and (f) rescue by re-infusion of the genetically transduced stem cells into the patient. The hoped-for result of this treatment is not only to effect a cure or remission of the lymphoma, but at the same time to cause the patient to regenerate hematopoietic tissues that carry the HIV-resistance gene, with consequent prevention, amelioration or eradication of AIDS in the patient.

8. The reasons why I chose CellPro's CEPRATE® SC stem cell concentrator for use in the above-described studies, after considering both the CellPro device

and the Baxter device, included the fact that our institution already had considerable experience using the CellPro device in breast cancer studies. I also considered the fact that colleagues and others in the field had commented favorably on its capabilities and the results achieved.

9. If I were unable for any reason to obtain or keep using CellPro's CEPRATE® SC stem cell concentrator, my above-described gene-therapy-for-AIDS research would be disrupted in profoundly serious ways. At the very least, the studies, as presently constituted, would have to be closed down. These are not conventional methodologies that would allow preparation of suspensions of cells needed for our research by alternative means. If I were to attempt to change over to another stem cell immunoseparation device, such as the Baxter Isolex device, it is not clear that the FDA would permit me to proceed with further studies without repeating the preclinical trials that established the safety of GCSF stem cell mobilization in HIV positive patients. As I have noted, those studies, which were the foundation of the further studies I am now conducting and still further studies which I plan to conduct, were all done with the CellPro CEPRATE® SC stem cell concentrator, and it is not clear to me that the FDA would accept the preclinical data as probative that a parallel procedure could be safely carried out with the Baxter Isolex device or another stem cell immunoselection device.

10. Were the FDA to require me to repeat the preclinical trials with a different immunoselection device, I estimate that re-doing those trials would consume approximately six to nine months of time, including time consumed in getting a different immunoselection device in place with appropriate agreements governing its use, obtaining all necessary governmental and institutional approvals, retraining staff to use the substituted device, recruiting patients for the trials, carrying out the procedures on the patients, and following the patients to monitor results.

11. More importantly, the preclinical evaluations that were completed in the effort to prove that blood stem cells could be mobilized, efficiently selected with the CellPro CEPRATE® SC stem cell concentrator, and then genetically transduced with our experimental vectors using HIV-infected donors, required that these volunteer research subjects accepted risks without possibility of direct benefit. Once proven, it would be unfortunate, and might even be considered unethical, to ask additional persons to volunteer for repeat studies to evaluate another system and again have to be at physical risk without possibility of benefit.

12. Delay in the progress of our gene-therapy-for-AIDS studies would pose other problems as well. One is that our supply of HIV-resistance vector, which was obtained from a proprietary source and is being used pursuant to a research agreement with that source, was intended to be used within four months. Because the vector is a delicate and

perishable biological material, any substantial unplanned delay in its use would at best upset the study protocol and might necessitate discarding and replacing our supply of HIV-resistance vector, to the possible detriment of our relationship with its supplier. In addition, because our patients were recruited for these studies with the expectation that they would be treated promptly, any disappointment of patient expectations in this regard could result in decisions by patients to drop out of the studies. That would be a blow to our progress, especially since the numbers of patients enrolled were not large even at the start.

13. Delay-related reasons are not the only reasons why the idea that the CellPro CEPRATE® SC stem cell concentrator could become unavailable as a result of a patent dispute causes me great concern. Getting to the present point in our research has required substantial investments of NIH and institutional funding, as well as the mobilization of substantial personnel resources, including the investment of training and experience-acquisition time that we have made in the CellPro device. Moreover, one reason why I selected the CellPro device for my studies is that I was aware that it was a widely-used device which appeared to be close to FDA approval. Because I realized that it would be necessary to expend substantial time, effort and financial resources to develop the new therapeutic methods which are the aim of the studies contemplated and in progress, I wished to employ a stem-cell selection device whose wide distribution would help assure that the new therapies, if successful, would come into widespread use with minimal delay. If the availability for research and therapeutic use of the CellPro CEPRATE® SC stem cell

concentrator were curtailed for patent-related reasons, that goal would to that extent be jeopardized -- to the detriment, I believe, of patients who might potentially benefit from the therapies we are attempting to develop.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Duarte, California, this 11 day of April 1997.

JOHN A. ZAIA, M.D.